



ESTABLISHED 1878.

VOL. XV.

CLEVELAND, OHIO, AUGUST 4, 1892.

NO. 32

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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CLEVELAND O.

Mr. R. K. Winslow is again in fairly good health and spends some time each day attending to his vessel business.

The yacht "Say When" owned by W. J. White will be fitted out with electric lights, showing variegated hues, a flower garden by sunlight will be simply not in it when compared with the "Say When" of a dark night with a clear atmosphere.

Work at the yards of the Cleveland Ship Building Co. is progressing on the large freight monitor and she is now about half in frame. The machine shops, boiler works, foundry and other departments are kept running on full time with orders booked well ahead.

The Cleveland Dry Dock Co. are now doing excellent work on the excavation and pile driving of the large new dock. Some delay has been caused through the breaking in of the cofferdam, but this difficulty has been overcome and every advantage is being taken to bring the work to a successful issue.

The Hawgood and Avery Transit Co. have removed their offices to more commodious quarters but on the same floor of the Perry Payne.

The light-house tender Lilac reached Portland, Me., on Monday, and was there turned over to the government by Mr. Luther Allen, secretary and treasurer of the Globe Iron Works Co., her builders.

The second light-house tender, named the Columbine, is now nearly completed and will be ready for delivery shortly after the middle of the month. After a thorough trial trip of twelve hours' duration, she will be taken to the coast in the same manner as was the Lilac, but will be delivered to the United States Government at Tompkinsville, Staten Island, and from there she will proceed to her station at Portland, Ore.

Rear Admiral James A. Greer, U. S. N., chairman of the Light-House Board is now on a tour of the Great Lakes in the interests of the light-house service. The plan of lighting St. Mary's River will be carefully examined, and while some of the most experienced masters and pilots have said that they want the best kind of daylight to pilot through the tortuous river, it is certain that the best possible ranges will be placed when the work now under way in the new channel is completed.

The genial Captain William Mack who has been "under the weather" for the past two weeks is convalescent and ready to again take charge of the Kershaw.

David Bell, of Buffalo, has just completed the second fire boat for use in that city and fire director Gardner has written him to learn what recent improvements and additions have been added to her equipment. It is not likely that Mr. Bell will furnish plans and specifications for the mere asking, yet, it is gratifying to learn that attention is being directed to this, the most positive and economical way of improving the fire service of the city, especially in the manufacturing center.

Colonel Jared A. Smith, Corps of Engineers, U. S. A., has taken steps to have a close survey made of the harbors in the district, beginning at the port of Conneaut, O., the surveying party under Engineer W. S. Blunt and Lieut. Judson will work to the westward and on reaching Cleveland a thorough hydrographic survey of the waters as they are at present will be closely recorded and charted. This is a positive step in the right direction and if the same system was inaugurated along the entire coast line of the lakes it would save endless litigation in the future, besides conserving the just rights of the people in their title to submerged lands, etc.

Mr. John C. Fitzpatrick, owner of the large new schooner named after him and recently completed at the yards of F. W. Wheeler & Co., West Bay City, Mich., is more than pleased with the carrying capacity of his new vessel. She brought down from Escanaba this week a cargo of 2390 tons of iron ore on a draft of 16 feet 6 inches.

Captain Geo. McLeod, visited this port on Monday and held a survey on the Margaret Olwill and the rebuilt tug C. E. Benham afterwards leaving for Toledo to survey the schooner Downing.

Among the well known vessel men visiting this port during the week were Captains, Bassett, Wilford, McLeod, Baxter, Marsilliot, Cunningham J. J. Rardon, David Vance and E. M. Peck.

Mr. Thos. Quayle, of the late firm of Quayle's Sons, shipbuilders, is again seen among vessel men looking well and hearty after his trip to the sunny south. Mr. Quayle senior who is now an octogenarian is still to the fore and takes an interest in the shipping events on the lakes.

THE BRIDGE QUESTION AT DULUTH.

IRON ORE NOTES AND SHIPPING RECORDS.

Special Correspondence to The Marine Record.

DULUTH, MINN.—The question of a bridge over the canal at the entrance to the harbor is once more stirring up the greatest interest at Duluth. An eminent engineer, Gen. Wm. Sooy Smith, has been here for several days, and has made a report to the City Council favoring, not a bridge, but a tunnel, and it is probable that the board of works will report that a tunnel is the thing to have. However, it is one matter to report and quite another to act, as the city government is liable to find out when it comes to getting the cash for such a giant undertaking. A tunnel, as Mr. Sooy Smith proposes, would cost at least \$700,000, and possibly much more, and the general fund of the city is not in a condition to stand such a drain. While at least half the cost of a tunnel would be met by the property owners of the district, and by railway companies, which would benefit directly, Duluth has too great a depth to undertake any such work. There remains the bridge idea, and with the heavy interests that are arrayed against this, it will likely be an undertaking of long time. Duluth cannot see, in all candor, why the lake interests are so unhesitatingly opposed to a bridge, as it has been one of the cities that has made lake shipping what it is, and any effort that has for its object the furtherance of the commerce of the place

and its greater power as an employer of water carriage should not be hindered except on the weightiest grounds.

A new shipper enters the lists of Duluth district iron mines this week. It is the Zenith, a mine that has been known as a mine as long as the famous Chandler, but which has only been opened since it got into the hands of the Bradleys and their partner, H. H. Hanford, of this city, and C. H. Bradley, the extensive vessel owner of Bay City. For the past six months they have been steadily at work opening and developing the property, and have found some of the finest iron that has ever been shipped out of Lake Superior. Assays that they have lately secured run as high as the best grade of the Minnesota. Saturday last the Duluth and Iron Range road completed a spur track to the mine, which lies a mile or two from the Chandler location, and a little ore may be shipped before this letter is printed. Runyon, Mack & Co., of Cleveland, are selling agents for the mine, and have already disposed of 20,000 tons of ore. Large additional sales are expected soon, and the property will ship at least 35,000 tons this year. The Pioneer mine, located on the same lense of ore as the Zenith, and from which trifling shipments have in past years been made, also shows great signs of activity since Capt. Wilson, Oglebay, Norton & Co., and others took control, and will be a famous shipper in another year. It is quite generally believed that the Chandler people are the chief owners in Pioneer, despite recent sales. Ore shipments for July were far in excess of any preceding month in the history of the Vermillion range, August 1891, the banner month heretofore, being passed by over 40,000 tons. To date this season's shipments have been 520,000, of which nearly 300,000 tons have been from the Chandler. From Two Harbors' docks last week 34 cargoes aggregated 63,000 tons, an excellent commentary on the class of vessels in the trade.

The Duluth Transfer Co., the new terminal company that is building railway lines at the west end and in the city proper, has just bought for \$140,000 the dock of the Duluth Storage and Forwarding Co., and will use it as merchandise dock for itself. The dock is on the west side of 7th avenue west, between the Omaha and Northern Pacific docks, and is very conveniently located.

The new steamer Gilbert did not break the wheat carrying record out of Duluth on her second trip as her people confidently expected. Her captain weighed up 105,000 bushels of wheat for a load and claimed he would be able to get away with it on 14-5 draft, but he could not load as a matter of fact more than 102,500. He was endeavoring to break the record of the Pope, made last fall, of a fraction less than 104,000 on a 14-6 draft. The Pope's record is not in it now, however, as the Weed has just carried down a load of 24,800 bbls flour from this city, at least so the railroad company's books state. At 4.3 bushels to the barrel, which is a very moderate calculation and allows nothing for the weight of the barrels and sacks, it makes a cargo of 107,500 bushels, which some of the other fellows will have to strain pretty hard to reach.

Dull July this year is a misnomer, for the records show that this month has been one of the best. Total arrivals during the month were 327 against 283 for the month previous and coal cargoes were 226 against 186 in June. Wheat shipments for the months were 3,131,612 bushels against 1,595,647 bushels same month last year; receipts of wheat were 2,367,435 bushels against 1,390,647. In flour the record was fully as satisfactory, shipments were 619,686 bbls against 404,963, and local production was 87,955 bbls against 48,641 a year ago. Wheat in stock now is 2,803,316 bushels, a reduction of 551,000 bushels for the week.

(Concluded on page nine.)

WORLD'S COLUMBIAN EXPOSITION NOTES.

As the time approaches for the final allotment of space, applications are pouring into all the departments from intending exhibitors who have postponed arranging for their respective displays until the last moment, when further delay would have shut them out altogether. The marine section of the department of transportation is harvesting a goodly proportion of this aftermath. The Century Co. want 204 sq. ft. of wall space for 50 framed drawings of marine subjects and scenes, such as vessels, monitors, fishing vessels, sea fights, mail boats, blockade runners, bombardments, explosions on vessels, collisions, vessels in action, etc. These drawings are in pen and indian ink, gouache, charcoal, in oil and in pencil. As they are made for illustration they are all in black and white. In behalf of citizens of Milwaukee 1,024 sq. ft. of floor space is requested for a miniature model in staff of the harbor and city of Milwaukee, Wis., showing its docks, shipping facilities, streets, parks and public buildings. The Providence & Stonington Steamship Co. ask for 375 sq. ft. in which to display models and pictures of steamers and drawings and plans of steamers, engines, etc. An eminent naval architect and designer of Boston, Mass., (for six years chief assistant to the late Edward Burgess) will fill 170 sq. ft. with original models of a fishing vessel, a sailing yacht and a revenue cutter, to be accompanied with plans of same. A citizen of Chicago proposes to exhibit a sailing model of a sea-going racing yacht of 40 tons measurement, built to a scale of one inch to the foot. Length 8 ft. 6 in. over all, breadth 1 ft. 6 in., height 3 ft. 6 in., and of 100 lbs. weight. Wall and floor space is also asked for a model of a New York pilot boat (schooner) and 8 to 10 marine pictures of various sizes representing the towage feature of the pilotage business. A novel application for space in this department comes from a Cleveland resident who proposes to exhibit a model of the Superior street viaduct of that city 3 ft. wide, 11 ft. long, 3 ft. high, and a model of a locomotive and train of cars 7 ft. long, 1 ft. wide and 1 ft. high, both of which models have been cut, carved, whittled and finished throughout with a common pocket knife. The maker enters his work as a competitor for jack knife supremacy.

A NEW CORRECTION FOR COMPASS COURSES.

It should be known that the "magnetic latitude," and not the geographic latitude determines the inclination of the magnetic meridians; and that in this fact is found the source of a difficulty that has perplexed the shipmaster on the lakes, since those waters have been whitened by a sail, or vexed with a wheel, and this difficulty, now, with our iron and steel vessels is greater than ever.

This difficulty consists in getting satisfactory courses from the chart, for runs making from 100 to 150 miles of easting or westings, as from Long Point, to Point Pelee, Lake Erie, or from Whitefish Point to Keweenaw Point, Lake Superior, etc.

With a compass that is known to be correct, or properly adjusted, and which makes good courses and reversals on runs of 10 to 20 miles or more, the shipmaster does not comprehend why he may not make good courses and reversals on runs of 100 to 150 miles. Say he shapes his course from Copper Harbor to Whitefish Point, applying the mean of the variation between those points, and the deviation of his compass, if any, having good weather and good steering; then imagine the mingled emotions of vexation, disappointment, distrust of calculations, loss of confidence in his compass, to say nothing of the latent profanity that rankles in his bosom, when he finds himself 3 or 4 miles north of his proper offing, at Whitefish Point, as he would be, on a distance of 145 miles.

All this comes from neglecting a factor that has always affected the navigation of the lakes, but which has never been considered.

The magnetic equator, in our longitude, is about 8° south of the geographical equator, and the magnetic pole is much farther south of the geographic pole than is the magnetic equator south of the geographic equator, so that the quadrant of the magnetic meridian is much less than the quadrant of geographic meridian; moreover, the "dip" of the needle, which is the measure of the magnetic latitude, increases faster near the equator than in the vicinity of the pole, all of which facts conspire to make our magnetic latitude much higher than our geographic latitude.

The Great Lakes lies between magnetic latitude 73° and 78° the corresponding geographic latitude being 41° and 48°.

Now it is the "inclination" of the magnetic meridians that disturbs, or vitiates our calculations for compass courses, and this "inclination", or convergence, depends on the magnetic latitude.

From spherics we learn that this "inclination", of the meridians passing through points is found by multiplying the sine of their mean latitude by their difference of longitude.

The mean magnetic latitude of track of most vessels, on the route from the "Soo" to Duluth, is about 77°, the sine of which is .9744 and the difference of longitude as found from the United States list of lights on the lakes is 2° 56' or a little more than 1/2 point, between Whitefish Point and Copper Harbor. But our factor .9744 is so nearly unity that for all practical purposes we may take it for unity, whence we may take the difference of longitude of two places on the lakes as the inclination of the magnetic meridians through those places. Indeed,

with our compasses graduated no lower than single degrees, we could not work to the discrepancy, if we should try.

And the shipmaster must bear in mind that the vessel does not sail in a right line between the two points between which he wishes to sail, but in a curve that always lies south of that line, whence the vessel must start out from either end of this route, in the direction of this curve, at that point.

This curve is a spiral, known at sea as the "loxodromic curve," but in such lengths as we can project on the lakes, it may be regarded as the segment, an arc of a circle.

And we learn from geometry that the angle between the extremity of an arc and its chord is half the angle subtended by the chord, i. e. in our case, half the inclination of the meridian.

Whence, if we set off half the difference of longitude between two places, to the south of the right line between them, we will have the course corrected for "inclination."

And this correction, which we may take at 1/2 point, must be made on all the following courses, viz. Long Point—Point Pelee, Whitefish Point—Copper Harbor, Eagle Harbor—LaPointe, Eagle Harbor—Devils Islands.

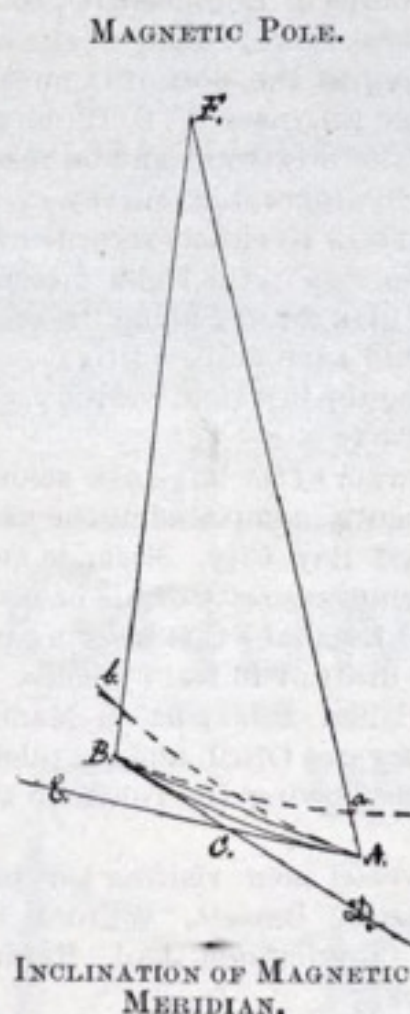
The error resulting from neglecting to apply this correction, will be that the shipmaster will find himself about 3 to 4 miles out to the northward in every case.

The following figure will illustrate the above facts with others.

Let the two inclined lines AF. and BF. represent the magnetic meridians passing through Whitefish Point at A. and Copper Harbor at B. Then is the angle AFB. their inclination, or convergency, which is found to be 2° 56', or something over 1/2 point, distance AB. 145 miles.

At A. the vessel must start in the direction of AE., in order that she may arrive at B., the curve, and not the right angle between A. and B., being the track of the ship.

The angle ABD., or the angle BAE., is the correction angle to be applied, always to the south, and in value 1/2 the inclination of the meridians, in this case 1/2 point.



for 145 miles, or say one-third of a mile, which we would not consider worth noticing.

If we should neglect to apply this correction in sailing, say from A. to B., the right line AB. would be the direction of ship at starting, then because the card of the compass swings through the whole angle AFE. the ship will sail in track AB. to the northward of her proper route, and in the same manner if she sail from B., she will sail in the track BA., i. e. to the northward in either case, and Bb or Aa. is the error of the landfall, in this case 3.6 miles.

H. C. PEARSONS.

CLEVELAND STEAMBOAT INSPECTION DISTRICT.

The annual inspection certificates of the following named steamers expire during the present month on the dates given opposite their names:

August 3, Daisy.	Aug. 19, Republic.
" 5, Syracuse.	" 20, Protection.
" 5, J. R. Fallis.	" 22, Australasia.
" 5, Mary A. Green.	" 24, F. E. Smith.
" 5, Vulcan.	" 24, Blue Lodge.
" 7, Little Raymond.	" 24, Maggie.
" 12, Tampa.	" 28, Leland.
" 14, W. H. Doan.	" 29, Dixie.
" 14, T. M. Moore.	" 31, Tempest.
" 17, A. Wehrle Jr.	

DRY DOCK FACILITIES.

The McKinnon Manufacturing Co., of Bay City, Mich., have increased their facilities for marine work, and have now in good working order powerful hydraulic slings for lifting the ends of vessels. The dock is also equipped with a crane, pumps for cleaning and testing boilers, and other appliances, including a shipyard jig mill. The slip has been dredged out, so that a good eleven feet of water may now be taken over the sills.

BAY CITY, MICH.

Special Correspondence to The Marine Record.

The new tug A. A. Parker has gone into commission. McKinnons slings are again at work and several tugs have made use of them for repairs.

The old steamer Araxes, owned by Capt. James Reid is to be converted into a lumber barge.

Capt. Latour has sold the barge Eliza to Capt. H. H. Bennett, and has purchased a two thirds interest in the barge J. C. King from Capt. Lee D. Bennett, consideration private.

The steamer Oneida owned by the Davidson Transportation Co., is being rebuilt at the Bay City Dry Dock. She will receive new steel arches, decks and deck beams, stanchions, upper works and stern. It will take two weeks to complete her.

The tug Music has passed out of existence and will hereafter be known as the Acme. She broke her shaft in bringing logs from Canada and is now receiving repairs and having her new name painted on her bows. She is owned by the Loveland Transportation Co. of Saginaw.

The work of dredging the bar at the mouth of River has been commenced. The tug Adams is attending the dredge. This is work that should have been attended to long ago, the government appropriation having been expended further out where it was not so necessary.

Your correspondent while east last week spent some time visiting the Brooklyn Navy Yard. It is certainly worth a visit. It is as complete as it is possible to make it, having its own boiler and engine works, foundry, etc., etc. It is a small city in itself, being provided with its own fire department, water works and other things that go to make up a town, the receiving ship and soldiers barracks add to the attractiveness. There was only one vessel on the stocks, a steel boat, the Cincinnati. The armoured cruiser Maine is in the dry dock which by the way, is of stone and cost \$2,000,000. She has eight boilers and will be armoured with 12 inch nickel steel. She will carry 4, 10 inch and 10, 6 inch guns. It will take nearly two years to complete her. The old monitor Nantucket is temporarily out of commission, she has seen a good deal of service and could be used again if necessary, another monitor is lying at the dock receiving new turrets. The dynamite boat Vesuvius was coaling up, she is long and narrow and looks small, but could do a great deal of harm when necessary. The yards as a whole do not present as busy an appearance as one of our local yards.

Hawgood and Avery, of Cleveland, O., has closed a contract with F. W. Wheeler & Co. for what will be the largest boat on the lakes. The new vessel will be 360 feet keel, 378 feet over all, 45 feet beam and 25 feet deep. She will have a 54 inch water bottom and will carry 1,350 tons of water ballast. The engines will be of the triple expansion type with cylinders 23, 37, and 62 inches in diameter and a 44 inch stroke. The boilers will be 12 feet long and 12 1/2 feet in diameter. Wheeler and Co., will build the engines themselves.

J. P. R.

LAUNCH OF THE U. S. S. COLUMBIA.

The new United States cruiser No. 12, named by her builders while under construction, the "Pirate", was launched at Cramp's shipyard, Philadelphia, last week in the presence of a large crowd of spectators. Among those present, besides a number of naval experts, senators and representatives and agents of foreign governments, were Vice-President Morton, Secretary Tracy, Assistant Secretary of State Grinnell, Senator Hisecock, Commodore Wilson, and Naval Constructors Bowles and Woodward, Mrs. Morton and Miss Edith Morton. The last named young woman performed in a graceful manner the act of christening the new vessel "Columbia."

The cruiser is in many respects a unique vessel and is the fastest commerce destroyer ever launched in any waters, and for the purpose intended the most effective engine of destruction the world ever saw. She is 400 feet long, has a speed of 21 knots, is made entirely of American material and cost \$2,725,000.

The Wheeler Condenser & Engineering Co., of New York, furnished the Condensers for the auxiliaries, and the American Ship Windlass Co., Providence, R. I., their latest improved man-of-war windlasses, steam capstans chain stoppers and other ground tackle appliances.

The duplex telegraph gongs hitherto imported to a great extent is now manufactured by and were supplied to the Columbia by Charles Cory & Son New York, including electrical indicators, bells and telegraphs for engine room, wheelhouse, and other parts of the ship.

BRITISH BUILT WHALEBACKS.

As a result of the several visits of Mr. Johnston to the lakes, it was learned some time ago that the "whaleback" type of vessel would be constructed in England. "Fairplay" has the following to say on this subject.

"It looks as if the 'whaleback' type of steamer is to pass beyond the condition of mere experiment, and to become an active reality in the near future. The names of the promoters of the 'Whaleback Steamship Company, Limited,' are alone a sufficient guarantee that the purpose for which it is formed will be carried out. Messrs. William Johnston & Co., of Liverpool, whose motto is 'More and More,' and whose steamers are almost as well known as the 'Clan' liners, will be the managers; two of the partners of Messrs. Ross T. Smyth & Co., Liverpool, also sign the Memorandum of Association, giving four English supporters, to which are added two New York bankers, Mr. A. McDougall, shipbuilder, of Duluth (on the American shores of Lake Superior), and Mr. Chas. W. Wetmore, after whom the first 'whaleback' was named. The Company acquires the patents taken out in America, England, and elsewhere by Mr. McDougall, for the construction of vessels of this type, and the capital is quarter of a million sterling, in shares of £10 each, which amount will be easily raised by the names above given."

The unsigned article in our last issue under the caption "Resistance of Ships" was from the pen of Mr. Joseph R. Oldham, Cleveland, O.

There is no doubt of the Virginia's great speed; in fact it has never been questioned, why, therefore should the Journal attempt to exaggerate.

Maritime Law.

Circuit Court of Appeals, Third Circuit. June 21, 1892.

1. COLLISION—DAMAGES FOR DETENTION.—An excursion steamer, colliding with a tug through the latter's fault, was so injured as to be delayed for repairs 21 days, during all but 1 of which she was under charter. Her owners hired another boat to fill her engagements during 8 of these days, at \$110 per day, and during the rest of the time substituted other vessels of their own. Held that the proper measure of damages for the detention during the latter period was not the value of the charters, but the cost of the substitution, and, in the absence of evidence, the cost would be presumed to be the same as in the case of the vessel hired, namely \$110 per day.

2. SAME.—In the absence of any suggestion that the hired vessel was not competent for the purpose, it was immaterial that the other substituted vessels were larger than it; nor could the recovery be affected by the fact that the substituted vessels would otherwise have been idle. 50 Fed. Rep. pp 845.

District Court, D. Massachusetts. May 31, 1892

COLLISION—SAIL VESSELS BEATING—DUTY TO RUN OUT TACK.—Two schooners were sailing in the same general direction, close hauled on the port tack. The swifter vessel, the K., passed the other, the L., to leeward, and then came about on the starboard tack, and was struck before she had fairly gathered headway. There was sea room enough for the K. to have continued further on her port tack. Held, that the L. had the right to assume that the other vessel would beat out her tack, and that for her failure to do so the K. was liable.

The evidence on the part of the Lymburner is that the coming in stays by the King was immediately seen by those in charge of the Lymburner, and her helm was instantly put hard up, and her main sheet let go, in the hope of causing her to fall off and go under the stern of the King, which was the only possible way of avoiding or lessening the force of the impending blow, and though the Lymburner fell of somewhat, yet there was not time or room to go clear. I am satisfied that this is a correct statement of what occurred, and that the claim of the King that there was sufficient room is wrong. The King further claims that she was then getting into shoal water, and was obliged to go about for her own safety. This belief of her master was undoubtedly the reason of his going about when he did, but he was mistaken. There was ample room for her to proceed much further towards the shore without danger. Her master lacked in experience and was unacquainted with the navigation at this point, and this accounts for the disaster. The men on the Lymburner were familiar with the locality, and had the right to assume that the King would run out her course. The change by the latter was sudden and unexpected, and was without excuse. The libel against the Lymburner is dismissed with costs, and in the libel against the King there is to be a decree for the libellants.

CAUTIONARY NOTICES TO MARINERS.

The Canadian Deputy Minister of Marine gives the following cautionary notices to mariners:

WITH RESPECT TO LIGHTS.—The intrinsic power of a light should always be considered when expecting to make it in thick weather. A weak light is easily obscured by haze, and no dependence can be placed on its being seen. Colored lights are also inferior in power to bright or white lights, and are more quickly lost under unfavorable circumstances.

CUTS OR SECTORS.—In some conditions of the atmosphere white lights may have a reddish hue. The mariner should not trust solely to color where there are sectors, but verify the position by taking a bearing of the light. On either side of the line of demarcation, between white and red, and also between white and green, there is always a small arc of uncertain color.

WITH RESPECT TO FOG SIGNALS.—Having in view the varying distances at which a fog signal can be heard at sea, and the frequent occurrence of fogs near to, but not observable from, a fog signal station. Mariners are cautioned that whilst they are entitled to assume that every endeavour will be made to start fog signals as soon as possible after signs of fog have been observed, they should not, when approaching the land in a fog, rely implicitly upon these fog signals, but should always use the lead, which, in nearly all cases, will give sufficient warning.

Mariners are strongly cautioned that they must not judge their distance from a fog signal by the power of the sound. Under certain conditions of the atmosphere the sound may be lost at a very short distance from the station, and these conditions may vary at the same station within very short intervals of time. The expression "foggy weather" means that the state of the atmosphere is such as to make objects indistinct.

NEW TONNAGE.

The H. W. Williams Transportation Co., of South Haven, Mich., is building a steamer for their South Haven and Chicago route. She will be 175 feet in length, 31 feet beam, and 13 feet depth of hold. Henry Bloeker & Co., of Grand Haven will build the engine, which is to be 26 x 30 inches condensing with independent pump. Steam will be furnished by a Scotch boiler 11 x 11 feet, with three 36-inch furnaces. The boiler to be built by Johnson Bros., will be allowed 130 pounds pressure.

THE COCHRANE SEPARATOR.

Separators for live and exhaust steam are now so well known, and their importance so generally appreciated for the separation and removal of solid or fluid matter from gaseous or vaporous currents that a short description of one of the latest developments in appliances of this kind may be of interest to our readers.



The Cochrane Separator for horizontal pipes, as herewith illustrated, consists of a cast-iron casing, having opposite lateral openings near the top for the ingress and egress of the steam. The upper section is divided by a baffle plate, having parallel corrugations or ribs extending vertically from top to bottom, with two equal openings, one on each side next to the casing, of a combined area 25 per cent. greater than the area of the entering pipe.

Surrounding and guarding that portion of the baffle which is cut away on each side for the steam passage is a special deep rib to prevent water from flowing or being driven through by the current of steam. The inside of the casing is also provided with vertical ribs.

Forming the bottom of the Separator proper, the sides pitch in toward the centre from all directions, and lead directly to the receiving well or reservoir, the mouth of which is specially protected from the current of steam to prevent any interference with the contents, either during passage thereto, or after coming to rest.

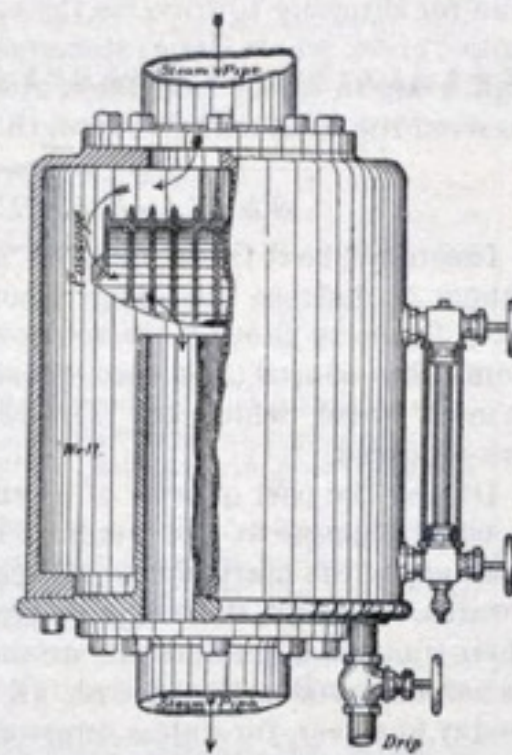
A suitable gauge glass and valve in drip pipe completes the equipment.

The Separator for Vertical Pipes, as illustrated, differs from the horizontal form in having openings at the top and bottom for the ingress and egress of steam, and in using the angular baffle plate which plate is also provided with ribs to break up and divert the entrained water and oil from the current of steam, on the same general principles as those employed in the horizontal style.

The well is formed by casting on the bottom piece of the Separator a pipe projection, which rises to the lower edge of the baffle plate.

The principle of action in both Separators embody all the best points of approved methods for obtaining the most complete separation, and give, by a straight, downward course, the most rapid flow to the well. Release side openings for the purified current to pass out, of sufficient area to prevent back pressure, are so placed and protected that there is no possibility of any of the separated oil or water being picked up again and carried past the Separator.

These Separators, in sizes from 1½ inches upwards, are manufactured by the Harrison Safety Boiler Works, Philadelphia, Pa., under patents granted February 4th, 1890, and May 3d, 1892.



THEY WANT GOVERNMENT CONTROL.

The Secretary of War will be asked to take formal charge of Chicago River from Rush street bridge to the limits of navigation in both North and South branches by the Lake Line Agents' Association. As a second means of stopping the construction of South Halsted street bridge until the city has obtained possession of the land for widening the river at that point; a complaint has been lodged with Collector of Customs Clark. This was decided at a meeting of the association. By the River and Harbor bill, under which the War Department took action on Canal street bridge and other unreasonable obstructions to navigation, it is made the duty of the United States engineers or customs officials to report unreasonable obstructions to the United States District attorney. There being some doubt as to whether the South Halsted street bridge came within the jurisdiction of Capt. Marshall or Collector Clark, the line agents took both courses, as they considered one or the other must be right. If Secretary Elkins is to take a fatherly interest in Chicago River then the customs officials drop out altogether. Thus far the city has made no move towards consulting with the War Department about securing its approval of the plans to the bridge. Vesselsmen believe that the city has decided to ignore government control over the river entirely, and they are doubly anxious on that account to secure action by the Secretary of War. Both complaints were forwarded by Secretary Evans.

HENRY J. FOOTLANDER has again started shipbuilding at Benton Harbor, Mich., and will have a fine staunch tug completed in about sixty days.

Notes.

ON one of her recent runs, the Virginia averaged forty-nine miles an hour for four hours, carrying 150 pounds of steam. She is called the greyhound of the lakes.—*Milwaukee Journal*.

QUITE a number of foreign yachts are likely to be in Chicago at the time of the World's Fair. Robert S. McCormick, representative of the Exposition in England, makes announcement to that effect. All depends on how favorable are the facilities for getting through the Canadian canals and for safe anchorage in Chicago. At his request full particulars on these points will be furnished.

THE dimensions of the steel steamer Samuel Mitchell a photograph supplement of which was sent to all subscribers with the issue of THE RECORD for July 28th are as follows; 308 feet, 6 inches overall, 292 feet, 6 inches keel, 40 feet beam and 24 feet 6 inches depth of hold; her engines are of the triple expansion type, cylinders 20, 32 and 52 by 42 inch stroke, two boilers 14 feet in diameter by 12 feet 6 inches long. She has carried 2757 gross tons on a mean draft of 16 feet 1½ inches. Her speed is 15 miles an hour light and 13½ loaded.

THE new steamer Desmond, built by the Jenks Ship Building Co., Port Huron, Mich., is now on her maiden trip, and her builders have received a very complimentary account of her ability. The Desmond is a wooden propeller of the following dimensions: 148 feet keel, 30 feet beam, and 9½ feet depth of hold; hull diagonal, strapped and corded, tonnage, 456 gross and 355 net, classed A1*. Her engine is 16, 32 by 26, boiler 8 by 12, allowed 125 pounds steam. She will carry 500 M feet lumber. Capt. C. S. Geal and Chief Engineer Charles Home are the ducat earners in the new boat.

IT is but honest to note that all classes of labor in English shipyards are not paid pauper wages. An eminent shipbuilder gives some particulars of two or three cases illustrative of the exceptional wages often earned by certain classes of shipyard workmen in shipyards on the Tyne. "One workman for years never received less than £10 per week, equal to about \$50, another had retired with accumulated savings to the tune of £7,000, say \$35,000, and a third, a skilful workman, but addicted to drink, had been persuaded to take an interest in flowers and vegetables, gave up his drinking habits, and became a wealthy man. Employers do not grudge the workmen these high rates of pay, provided they will only work steadily; but the difficulty is to get these extravagantly paid workers to come regularly to work."

THE feat of the Intman liner City of Paris in making her voyage across the Atlantic in five days, 15 minutes, and 58 seconds, which is 38 minutes faster than the Teutonic's time in August, 1891, is notable on several accounts. She made 519 miles in one day and 520 on another, the best previous record for a single day being the Majestic's 515. She covered over 500 miles for four days in succession, and her sister ship, the City of New York, is the only other vessel that ever did that. In those four days she travelled 2,044 miles. It was the 26th western trip of the steamer. In 1889 she beat the record in 5 days, 19 hours, and 18 minutes, but in March, 1890, she broke her shaft and nearly sank, and since that accident she has not been able to regain her old speed until this trip. In the meantime the Majestic, as well as the Teutonic, had made better time than her former best.

THE "Coast Seamen's Journal", San Francisco, announces the arrival of the whaleback steamer Charles Wetmore at San Francisco from Nanaimo with coal. "While at Everett, Wash., she received an overhauling. Five masts, each 48 feet high, have been set up on the whaleback's deck. The lower ends of the masts do not go through the upper deck, but are keyed into turrets, which rise about 5 feet from the deck. The turrets are painted red, which gives them a comical appearance. The masts were put in to satisfy the insurance people in the event of the machinery breaking down while at sea. The sails were not bent on the trip down. Another change has been made in the Wetmore by the fixing amidships of a water tank of 500 tons capacity. When this receptacle is exhausted of water it is filled with coal.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN AND NORTHWESTERN LAKES.

Kalamazoo Mich.

Notice is hereby given that on or about August 16, 1892, Kalamazoo Light (near the outer end of the S. Pier) will be discontinued as a pierhead light and re-established without change of order or characteristic as a coast light in the old light-tower surmounting the keeper's dwelling on the N. side of the mouth of the Kalamazoo river, Michigan.

The height of the focal plane is 35 feet above the base of the tower and 53 feet above lake level. The light should be visible in clear weather, the observer's eye 15 feet above lake level, 14¼ statute miles.

The approximate geographical position of the lighthouse as taken from chart No. 58 (coast chart No. 7 Lake Michigan) of the U. S. Survey of the Northern and Northwestern Lakes is: Latitude, north 42° 40' (00'), Longitude, west, 86° 12' (45').

By order of the Lighthouse Board, James A. Greer, Rear-Admiral U. S. Navy, chairman.

The Marine Record,

ESTABLISHED 1878.

Published every Thursday, at 144 Superior Street
(Leader Building,) CLEVELAND, O.

IRVING B. SMITH.
CAPT. JOHN SWAINSON.

Proprietors.

CHICAGO, ILL., 35 Franklin St.
THOMAS WILLIAMS, Associate Editor.

SUBSCRIPTION.

One copy, one year, postage paid, \$2 00
One copy, one year, to foreign countries, \$3 00
Invariably in advance.

ADVERTISING.

Rates given on application.

CLEVELAND, O., AUGUST 4, 1892.

DULUTH interests seem to be somewhat aggrieved at the opposition displayed by vesselmen to a bridge at the entrance of that port. If St. Louis Bay must be spanned let it be near the mouth of St. Louis River and not at the harbor entrance. Duluthians of the next generation will no doubt feel thankful that a proposition to blockade the entrance to their port by placing a bridge across the canal had been dealt with so intelligently at this time, real estate deals to the contrary notwithstanding.

THE wreck inquiry instituted on account of the recent casualty to the steamer City of Chicago at Kinsale on the South Coast of Ireland, developed the fact that there is no fog signal sounded from this important station. The court of inquiry recommended that such an aid be established. The *Liverpool Journal of Commerce* in a pertinent article on this subject says.

"We have insisted that, when steam has to be got up before a siren can be sounded, guns or horns should be used in the interval. Fogs drift along the horizon, and it frequently happens that the atmosphere clears up before a siren can be used. Masters of ships expect to hear the fog signal when their vessels are enveloped in darkness, though the weather may be fine at the place where the machine is manipulated. Whether fog prevails on land or in sight at sea, the fog signal should be sounded, and an international regulation should be agreed upon to this effect. At present the expediency of giving warning is left very much to the discretion of light-keepers."

How near this may apply to the United States fog signal service of the United States the Light-House Board are the most competent to say.

THE unpleasant notoriety which the action of Lake seamen has called forth even during the present season has not advanced the cause of union labor organizations, either ashore or afloat. Word now comes from the distant port of Nanaimo, B. C., that the entire non union crew of the American barque Richard III was kidnapped by union sailors at that port and made prisoners for several hours. "Pulling" a crew, as it is called, is a common practice on the lakes (though not now so frequent an occurrence as formerly), and has been tolerated by the local authorities without even an attempt in many cases, to maintain law and order. Mark the difference in that distant province of British Columbia, where two of the leaders of the union sailors were arrested, tried, and found guilty, and sentenced to 14 months' imprisonment each. The Seaman's Union of the Pacific Coast is a well organized body, and includes the most efficient seamen in the service, they have repeatedly demonstrated their ability to handle and protect floating property in a superior manner to any other class of labor, yet, withal, they are not permitted to run riot even when disposed to do so. The same regard for law and order ought to be maintained on the lakes, and then superior qualifications might be admitted to take its just place in the ranks of skilled labor, a feature which the disregard of all labor rights will never permit it to do.

COLONEL WM. LUDLOW, Corps of Engineers U. S. A., who was relieved from duty in the Eleventh District about June 17th, has been ordered to Washington to report, though nothing is learned regarding his colleague, Commander Oscar F. Heyerman, U. S. N. inspector of the light-house district.

The one-sided views and extracts of correspondence first printed in a Washington paper and widely copied in other papers as a Washington *special* probably injured the two zealous and well qualified officers more than all else that has been said or done, some of their best friends after reading this garbled statement felt indisposed to attempt even a palliation of the seeming break in the discipline of the department.

The marine interests of the lakes has now become aroused to the true state of affairs, and find that both of the officers were more "sinned against than sinning."

If the court of inquiry on the insubordination part of the charge is not amenable to ordinary persuasion, it is possible that a still higher court may be convened to hear the accusations preferred against at least one of these officers. The Eleventh district never had a more energetic and capable officer than Col. William Ludlow has proved himself to be, and the consensus of opinion among vessel men is that no more qualified engineer can be picked out by the chief of the department to execute the duties of this important district, therefore, all interests desire to see the colonel reinstated at an early date.

It may be accepted as a truism that the more facilities a port has to offer for shipping the greater will be the resultant trade and commerce to that port. The proposition, therefore, to re-open the old bed of the river at Cleveland is a good one. If it were carried into effect it would undoubtedly relieve much of that pressure which is felt in the weight of the season, when there is a constant incoming and outgoing of vessels. There is no valid reason why the improvement should not be made at the expense of the Lake Shore Railroad Co., on the ground that it was only granted its present right of way on the condition that it should re-open the old river bed if the city authorities thought this operation necessary for the interests of the mercantile marine. It is notorious that when a railroad company makes promises before it is granted certain valuable privileges, it is the most difficult thing possible to make it carry out these promises after the privileges have been secured. It can, however, be made to do what is just if the law is properly brought to bear on it. As the city council retains attorneys whose duty it is to guard the interests of the city when they are instructed to do so, the responsibility of prompt action in this matter rests entirely with the city council, and sanitary reasons alone are powerful enough to call for an exit to be made so that the still water may seek its level in the outer harbor. Wake up gentlemen and give us a belt line for shipping to traverse instead of the present congested creek where long steamers are required to lose half a day in trying to make a hinge of themselves so as to wind round in half their length.

SALVAGE SERVICES.

Inasmuch as it is the duty of all ships to give aid to others in distress the large amounts for salvage that were formerly allowed are not now given, and in all cases admiralty courts take into consideration the circumstances under which the services to floating property are rendered.

During the past quarter of a century there has been a marked change in the verdicts of the courts and the opinions of the maritime world regarding salvage service awards, formerly, the salvors were upheld in the idea that their rights and emoluments arising from a participation as salvors predominated over all other interests, not so to-day, however, for unless unusual services are rendered, such as a deviation from the course, placing the vessel, her crew and cargo in jeopardy to effect the rescue, a display of skill and personal heroism, or loss of valuable time are factors in the services rendered, adequate and equitable recompense is fully met by an award of liberal towing charges and the actual expense or outlay to which the salvor has been put to while rendering service to the disabled or abandoned vessel.

Another feature which perhaps enters more largely into the question of salvage than formerly is the locality in which the services are rendered, a disabled vessel having plenty of sea room, or in the ordinary track of commerce, simply requires skillful though perhaps exceptional towing services and on these lines several recent judgments have obtained. On the other hand, when a disabled vessel is close upon a lee shore, or what would ordinarily become such, when she is out of the usual path of merchantmen, in an extremely hazardous position where prompt and efficient aid can alone save even a part of the risk, under these or similar circumstances the time, labor, skill, expense and risk expended and incurred should be amply acknowledged and the salvors liberally recompensed for their enterprise.

The subject of salvage ought to be looked upon from a wide and liberal standpoint, as the service is a humanitarian one in the first place, and a distinctly voluntary one in the aggregate. If the policy of contesting all claims is indulged in, there is grave reason to fear that this action will sooner or later have a tendency to prompt masters to avoid vessels in distress, even as floating merchandise is now passed unnoticed on the ocean, there being more trouble to get returns from it than to save flotsam, jetsam or lagan.

These facts duly considered make it apparent that the parties to salvage cases on the Great Lakes, at least, should avoid federal courts and settle their differences amicably, the salvor not bringing an exorbitant charge and the saved willing to abide by the equities of the case. This feature is of more direct importance on the

lakes, as the entire circumstances and surroundings are at wide variance with ocean customs and exigencies, therefore requiring a distinct code of equity in reference to the service performed on these waters.

THE LAKE FREIGHT SITUATION.

Ore and coal rates have remained stationary during the past week, and a fair amount of chartering has been done. Ore dealers will do their best to prevent any advance, and any considerable increase in the rate will undoubtedly have its effect in decreasing down shipments. The feeling in grain is very good both at Duluth and Buffalo, and an advance soon is not unlikely.

Rates are: Wheat—Duluth to Buffalo, 3¼ cents; Chicago to Buffalo, 2¼ cents. Ore—Ashland to Lake Erie, \$1.15; Ashland to South Chicago, \$1.10; Marquette to Lake Erie, \$1; Escanaba to Lake Erie, 75 cents. Coal—Soft to the head of Lake Superior, 45 cents, hard, 35 cents; Milwaukee [and Chicago, 60 cents; Manitowoc, 50 cents; Escanaba and Gladstone, 40 cents; Lake Huron ports, 40 cents; St. Clair River ports, 35 cents.

A SINGULAR COINCIDENCE OF INSPIRATION OR ASSERTION CORRECTED.

The first and only triple launch taking place from one shipyard is heralded from the yards of the American Steel Barge Co., West Superior, Wis. The general dimensions of two of these launches are 320 feet in length, 42 feet beam and 25 feet molded beam, a handsome steel tug built to the order of the shipyard completed the trio put afloat last Saturday afternoon.—[The Marine Record, June 30.]

The first and only triple launch taking place from one shipyard is heralded from the yards of the American Steel Barge Co., West Superior, Wis. The general dimensions of two of these launches are 320 feet in length, 42 feet beam and 25 feet moulded beam, a handsome steel tug built to the order of the shipyard completed the trio put afloat last Saturday afternoon.—[The Marine Journal, New York; July 16.]

WE STAND CORRECTED.

CHASE CITY, VA., July 21, 1892.

EDITOR MARINE JOURNAL:

In your issue of the 16th inst., which reaches me at this far-off resort, I read as follows: "The first and only triple launch taking place from one shipyard is heralded from the yards of the American Steel Barge Co., of West Superior, Wis." It is a mistake to say this is the first and only triple launch. It is unquestionably an extraordinary feat, and never before accomplished except by myself. In the fifties, precise year not now recollected, I launched from my works on the East River, in the city of New York, three large vessels at one tide—steamer Golden Gate, built for the Pacific Mail Steamship Co., clipper ship Gazelle, and Havre packet ship Samuel M. Fox.

They were launched in the order in which I have named them, and the last one was afloat in twenty minutes from the time the first one touched the water, and without any hitch or accident whatever.

These facts, though not important in themselves, are unprecedented and thoroughly American, and as they may become history, should be correctly stated. WM. H. WEBB.

And yet, the contention is that the American Steel Barge Co. launched the three simultaneously. (ED. M. R.)

QUERY.

Editor of the Marine Record.

In speaking of an insurance being placed, a contention has arisen in this way, whether is it proper to say in Lloyds, or at Lloyds?

The latter is the most customary and general phrase, viz., the marine insurance is, or was, effected at Lloyds. (ED.)

A MESSAGE FROM LAKE HURON.

LAKE HURON, June 28, 1892.

Any person who may find this bottle (lady or gentleman), is requested to forward same to the office of THE MARINE RECORD, 144 Superior street, Cleveland, O., and receive the reward. The bottle was thrown overboard at 5 p. m. on the above date, during a fresh westerly breeze in Lat. 43° 22' N., Lon. 82° 20' W., by C. W. Lockwood, master of the schooner B. L. Pennington.

The bottle was washed ashore, and evidently recovered by a lady, who, with characteristic frankness and dispatch, and, without stating when and where found, writes to THE RECORD, as follows: "Found, this telegram, on the shores of Lake Huron, and forward as directed. Please send reward to Francis Atkinson, Hosmka, Sarnia, Ont., Wies Beach Hotel."

A NEW SHIPPING PORT.

Arvon, at the head of Huron Bay, Lake Superior, is the latest port on the coast line of the lakes to claim attention as a shipping point.

During the year the product of the Champion mine was nearly 200,000 tons, but the Huron Bay and Iron Range railroad learning of the vast mineral resources over this stretch of the country have built a railroad from the mines into Arvon and only ask a rate of 40 cents per ton for placing the ore on the docks at the new shipping point, where every facility will be offered for the prompt dispatch of vessels.

The capitalists interested in the development of the mines and docks at Arvon are now considering plans for building a new steamer, but, whether the contract will be placed by the Champion Mining Co., W. E. Stone treasurer, or by the railroad company, has not yet been learned. Certainly the annual statement of the Champion Mining Co., is not very flattering, but a wider development will take place now that low cost transportation to the lake is assured.

(Continued from page five.)

Freights are about the same as last week with little offering that is not taken though rates are firmer.

Under the special ruling of the Secretary of War the dredge firm of Williams, Dougherty & Upham today began work with two dredges on the work of widening the channel along the east side of Rice's point from opposite elevator H. to Connor's point. The work is done without bids or advertisement and was authorized on the request of Capt. Miller, Duluth's harbor-master, who represented that it was very badly needed, to give free passage for the immense traffic along the channel.

CHICAGO, ILL.

Special Correspondence to The Marine Record.

Lumber freights to local points are about the same, for outside points from one to two shillings per thousand raise is being paid and one-half to one cent on cedar.

The barge Samuel Stephenson, Captain John Mulraney, consort of the barge Robert Holland loaded 750,000 feet of green Norway lumber on her last trip.

E. W. Heath, shipbuilder, Benton Harbor, was here last Friday.

H. J. Footlander, formerly shipbuilder at Muskegon, has gone into the shipbuilding business again and is building a hull at Benton Harbor for the machinery of the tug A. Burton which was burned there two years ago.

Harry S. Channon, of the firm of H. Channon Co., shipchandlers Chicago, was married Monday, August 1st, to Bessie Westover, of Chicago, only daughter of George F. Westover, an eminent Chicago lawyer, at St. George's Church, London, England. The happy couple will make a tour of Europe before returning to Chicago.

The schooner Ann Maria, Captain Giffney, has received new spars and canvas during the past week.

The steam lighter Albert Wallace recently imported here from West Bay City, for the Lehigh Valley Line, has been in dry dock and undergone repairs and is again in use. Captain Black, of the steamer Oneida, is at present handling her and it is reported that a skillful salt water navigator will soon command her.

The inspection papers of the following steamers in this district run out according to date:

August 11...Joseph L. Hurd	August 11...Fashion
" 11...Rhoda Emily	" 13...Favorite
" 14...C. W. Bradley	" 17...A. S. Allen
" 17...Joliet	" 22...Rosalin
" 24...Duchess	" 26...Samuel Marshall

The tug Chicago which was sunk by collision with the steamer City of Concord last week was brought into the inner harbor Monday by several of Dunham's tugs. The body of Oscar Page the cook who was drowned on the tug was recovered by a diver on Saturday and was buried Monday at Graceland cemetery. The body of William Kopfer, the linesman was not found until Monday after the tug was brought into port, an inquest was held on both bodies and verdicts of accidental drowning was returned. All the tugs in the harbor are bedecked with mourning out of respect to the deceased.

Captain Ole Groh, was here last Thursday from Sheboygan. His tug Sheboygan had towed the new steamer built by Reibolt & Wolter, to Manitowoc, to receive her boiler at the Manitowoc Steam Boiler Works and will tow her back to Sheboygan where she will receive her upper works and be completed ready for work at once.

Captain James Sanford, of the steamer Walter Vail, reports that there is a shoal spot about half a mile south of the can buoy on Poes reef at the entrance of the Straits of Mackinaw with about 16 feet of water over it.

The steamer C. A. Eddy, loaded 89,500 and her consort the Newell Eddy, 85,250 bushels of wheat here last Saturday. The largest cargo of wheat ever taken out of this port by one steamer and consort.

The steamer Edward Buckley, Captain C. Gnewuch, built last year by Burger & Burger, Manitowoc, machinery by the Montague Iron Works, boiler by the Manitowoc Steam Boiler Works, is the fastest and best equipped steamer of her class, on Lake Michigan.

WILLIAMS.

BAY CITY, MICH.

Special Correspondence to The Marine Record.

The barge Sparrow has been seized by the revenue cutter Fessenden for running without proper documents. She is in the lumber trade between Tawas and this city.

Bearinger Bros.' steel yacht Straightaway, which has been rebuilt at Wheeler's, has had her name changed to Wapiti. She is just about finished and will leave in a few days for a cruise in Georgian Bay.

Light ship No. 51, which was taken to her destination via the St. Lawrence and the Atlantic, arrived safe and was turned over to the government officials at Tompkinsville, Staten Island. No's 52 and 54 are nearly completed and will be taken to their destination together. No. 52 is to be delivered at Edgemore, Delaware River, and No. 54 goes to the naval station at Charleston, S. C.

The frames are all up for the ocean tug building at Wheelers and the plates are now being put on. It is expected that she will be completed and ready to deliver in Boston some time in September.

The steamer C. F. Beilman, the last wooden boat on the stocks at Wheelers was launched the 28th. ult. She is con-

structed of solid oak, and is steel corded and steel arched. Her dimensions are: keel 290 feet, 41 feet beam, 23 feet moulded depth, and carries three pole spars. Her engine are 20, 32 and 54 x 42, triple expansion. Her boilers are 11½ by 12 feet, and are tested to 160 lbs. of steam. She is also provided with all the latest improvements in the way of deck hoisting machinery. She will be commanded by Capt. Albert Stewart and expects to clear this week.

The second of Capt. Davidson's big three, the City of Genoa, was launched from the yard last week, like all the boats built at this yard, she is a model both in the quality of material used in construction, and in the fine manner in which her cabins are fitted up. One of the peculiarities of this boat is the lack of masts, the only one that is carried being a small one well forward. This adds to the facilities for loading or unloading cargoes, as there are no center masts to interfere with the working of the ore buckets or grain spouts. Her engines are triple expansion, the cylinders of which are 20, 33, 54 with a 42 inch stroke. The boilers are 13 feet long by 11½ feet in diameter. She is provided with a steel boiler house, and the steering gear, pumps and hoisting apparatus are operated by steam.

J. P. R.

ESCANABA, MICH.

Special Correspondence to The Marine Record.

The steel steamer Maryland, owned by the Inter-Ocean Transportation Co. of Milwaukee, Capt J. C. Rickerson general manager, has eclipsed all previous cargo carrying records on the lakes by loading 3,663 gross tons, or 4,088 net tons of iron ore at this port. She left here on Monday, drawing 17 feet 4 inches, and still had a side out of water fit to cross the Atlantic with. The draft is unusual for the lakes, and could only be carried without lightening in the trade between here and South Chicago, but it is well worthy of recording that the 4,000 net ton limit has been reached with a limit of 88 tons to veer and haul upon if a few tons are questioned.

The RECORD man took a flying trip across the lake and around the popular resorts of Grand Traverse Bay last week. I found the genial shipowner, Capt. W. J. Webb of Cassopolis, enjoying himself at the James Neah-ta-non-ta resort which is located about nine miles north of Traverse City, head of the west arm of Grand Traverse Bay. Capt. Webb speaks in the highest terms of the new steamer Columbia, which was built by Roberson the Grand Haven shipbuilder, for the route between Traverse and Harbor Springs, taking in all the intermediate points of interest on the Bay. From Capt. H. N. Young who commands the flag ship Columbia of the Traverse Bay Line, I learned that the Columbia is 95 feet long, 20 feet beam and 8 feet draft of water, with a steam pressure of 125 pounds, she develops a speed of sixteen miles an hour making her run only a short days work.

The wrecker Henry Johnson of Detroit has the chains under the Ogemaw and she will soon be afloat if all goes well with the expedition.

The steamer City of Grand Rapids has not lost any time on her new run, neither has she lost business but instead, it is constantly increasing, and should it continue, a daily line will be established.

The Burns Transportation Co.'s steamer Lotus now carries numerous picnic parties up the Bay to the many points of interest and always returns on schedule time. Capt. Dan Norton and Purser Talbot are always ready to lend a hand to anything that tends to increase the popularity of their craft.

The lighthouse tender Dahlia has been in port here for several days past.

Escanaba can well boast beside the largest ore trade of a very considerable lumber output. Several million feet of the same material have gone forward already this season and it is yet being shipped at a steady rate.

The Goodrich Line Co.'s steamers City of Ludington and Menominee will make this port from Chicago and intermediate ports twice each week.

Shipping master Nesbitt has spent the past few weeks in looking over the necessities in his line at Ashland for the Lake Carriers Association. I hear of one of the union walking delegates leaving that city quite unceremoniously after being "knocked out" in the first round by Nesbitt. Mr. Severson, of New York city, is acting in the capacity of shipping master here during Mr. Nesbitt's absence.

UNO.

KINGSTON, ONT.

Special Correspondence to The Marine Record.

The schooner Kate, of Oakville, was capsized off Thompsons Point, Bay of Quinte, at 5:30 o'clock Thursday morning and Mrs. Papa the cook, and a seaman named Solomon were drowned. The Kate had left Belleville on Wednesday evening, light, for Charlotte, her crew consisting of Capt. Dewetta (master and owner,) and Alfred Barnett mate, both of Picton, Joseph Frechette of Belleville and James Solomon of Toronto seaman, and Mrs. Papa of Kingston, cook. The captain and Frechette were on watch and observing the equal approaching succeeded in getting the main-jaff topsail and jib topsail off the vessel before it struck. Mrs. Papa was on deck before the squall and was ordered by Capt. Dewetta to call the mate. She went down in the cabin to do so and her cries could be heard as the vessel capsized. Solomon was off watch in the fore-castle asleep and of course was drowned, but the captain and the other two clung to the wreck and were afterwards taken off by the Hero and taken to Picton. Mrs. Papa's body was found and brought to Kingston for burial, and a diver from the Donnelly Wrecking Co. recovered Solomon's body on Saturday. The schooner Kate will be raised at once and repaired at Picton. Mrs. Papa leaves an invalid husband and six children.

H. Corby, Esq., M. P. for Hastings Co., owns a very fine yacht and last week had as his guests for a three days outing on the river, Sir John Thompson, Minister of Justice, and the Hon. Mackenzie Bowell, Minister of Militia. The Ministers were well pleased with the beautiful sail among the islands and stopped on the yacht longer than they originally intended. While in Kingston, Sir John Thompson visited the breakwater and promised to give his assistance in having it repaired.

A great deal of unnecessary argument is taking place in the columns of our local papers over a dispute between B. W. Folger and Capt. John Gaskin as to the chances of the U. S. Government preventing the Canadian Marine from using the channels of the St. Lawrence river which lie contiguous to New York State. Mr. Folger said if the U. S. Government retaliated in this way, it would seriously inconvenience Cana-

dian trade and Capt. Gaskin says Canadians can use their own channels, and brings forward statements from his captains to prove the latter. If they kept on arguing from now until doomsday they would neither of them be furnishing any genuine information to the public, for it is simply amusing to see how each writer dodges the main question at issue and tries to catch the popular ear by some quibble.

The thinking public in this vicinity are much pleased with THE MARINE RECORD of last week, in your article on the subject of canal tolls believing that "National prejudices should not be allowed to gain a supremacy in these important questions of international commerce," etc.

The tug Traveller with a tow of four barges crossed the steamer Cresco's bow near Pine Tree Point, a short distance below Iroquois on Thursday. The first three barges crossed safely but the last was so close that Capt. Hatch of the Cresco had to choose either to run the barge down or to run his steamer on shore, and he choose the latter. The Traveller tried to pull the Cresco off shore, but was unsuccessful. The Cresco's passengers were transferred to the R. P. Flower and carried to Waddington, and the tug Alert of Morrisburg pulled the Cresco off.

Messrs. Snippen & Graham of Belleville, launched their new steambarge at Trenton this week. The new vessel is 125 feet keel, 24 feet beam and 10 feet depth of hold, with an 18 square high pressure engine, and boiler carrying 100 pounds steam. The new vessel will carry 250 M. feet of lumber or 425 tons of coal and will be used principally in the Trenton - Oswego trade. Mr. S. Penny, late of the Toronto Dry Dock, designed and superintended the construction of the vessel, and the hull shows evidence of his careful supervision, being well and strongly built of the very best material. Capt. John Vanalstine will command the new boat with Charles Guyette as first engineer.

One year ago your correspondent predicted that the R. & Ont. Nav. Co., would build their new steamer in the United States and bring her into Canada under a British Register without the payment of one cent of duty to the Canadian Government. Many marine men disputed this and said it could not be done. This steamer Columbian, hailing from St. Johns, N. F., is now running on the river with all the privileges of Canadian vessels without having paid one cent of duty.

MAGNET.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

Capt. Newman, of the steamer Niagara, picked up three soldiers in a capsized yacht one day last week. The life saving crew were watching the yacht, but did not offer assistance.

The old Goodrich liner Corona, purchased by the Woodlawn Beach Company, arrived here from Manitowoc Sunday night, and Tuesday she made her first trip to the new south shore resort. She found a channel and made the first safe landing that has been made in years on the American shore in that vicinity.

Louis Harbrecht, owner of the steamer Dixie, which was sunk by the Pilgrim, has been forced to give up his pilot's papers, the charges of drunkenness against him being proved.

The Dixie is not now in the place she sunk, and has probably been carried some distance down the river. It is thought no attempt will be made to raise her.

Captain M. J. Galvin has returned from Port Huron, where he was on the survey of the Aloha. He says her damages are \$12,000, with no insurance.

While the new Anchor liner Codorus was turning over her engine at the dock, a fuel scow got foul of her screw, and every blade of her sectional propeller was broken off short. The accident caused a week's delay.

The sea lighter Niagara is moored in a place on the main channel of Buffalo River, which renders her something of an obstruction to navigation. The Harrison last Monday in rounding into the Peck slip badly damaged her upper works by contact with the lighter, and then ran into the Russell Saye. The Harrison is in dry dock.

The Corona is painted black, and fastened to her walking beam is a big black sheet-iron image of a horse, which gallops wildly when the beam is in motion. Tug men generally have therefore dubbed the steamer "The Black Horse," while one was mean enough to call her "The Hearse."

The Erie canal appears to have survived its usefulness. Boats are generally lying up, and business is relatively smaller than last year. Canal men are making no money and the only apparent use of the mule power waterway is to keep rail rates down.

Capt. Young, of the steamer Fred Pabst, is the only master that attempts getting to and from the Reading coal chutes without a tug. Last Saturday Capt. Young came out with a cargo of 2,800 tons of coal and got hard aground. A tug in the first place would have cost the steamer \$12. As it was, nearly every tug in the harbor had a hand in getting the Pabst off, and it cost \$300, and 48 hours delay.

The steamers Harrison and Mascotte had a trial of speed coming up the Niagara last week. Both vessels were putting forth their best speed, when the fireman of the Mascotte suddenly concluded to quit work, and would not fire his boat even during the rest of the trip, though offered extra money to do so. A deck hand had to do the firing and as a consequence the Harrison came in ahead.

The new wooden steamer C. F. Beilman was launched at the yards of the Wheeler shipbuilding company at Bay City, on Thursday afternoon. Her gross tonnage is 2,056 and she is owned by the Steward Transportation company of Detroit.

A channel from Lake Michigan through Sturgeon Bay harbor to the entrance of the canal has been dredged to a depth of 16 feet under the direction of Major James F. Gregory, corps of engineers, officer in charge.

The Detroit Dry Dock Co., have under consideration the removal of their iron, steel and composite shipyard from Wyandotte to Detroit with a view to centralizing the extensive interests of the company.

OFFICIAL NUMBERS ASSIGNED.

The Bureau of Navigation assigned official numbers to the following new lake tonnage during the week ending July 30: Steam—City of Genoa, 1,773 net tons, Port Huron, Mich.; Charles P. Stricker, 7 net tons, Erie, Pa.; E. E. Hunt, 6 net tons, Oswego, N. Y.; Pathfinder, 1,762 net tons, Cleveland, O. Unrigged vessels—Sagamore, 1,557 net tons, Cleveland, O.

THE CENTRAL SCREW STEAMER LE LOUVRE.

In these days of radical departures from the ordinary rules of naval architecture in the construction of both freight and passenger steamers the central screw steamer herewith illustrated marks perhaps the latest change in the location of the propeller.

The general descriptions of the Louvre were taken from an article in a French periodical and published in a recent issue of the "Scientific American," to which paper we are also indebted for the reproduction of the cuts.

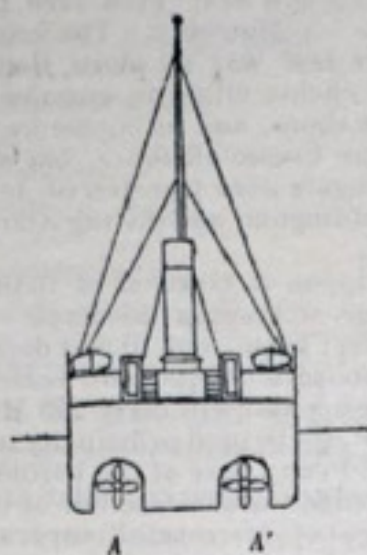
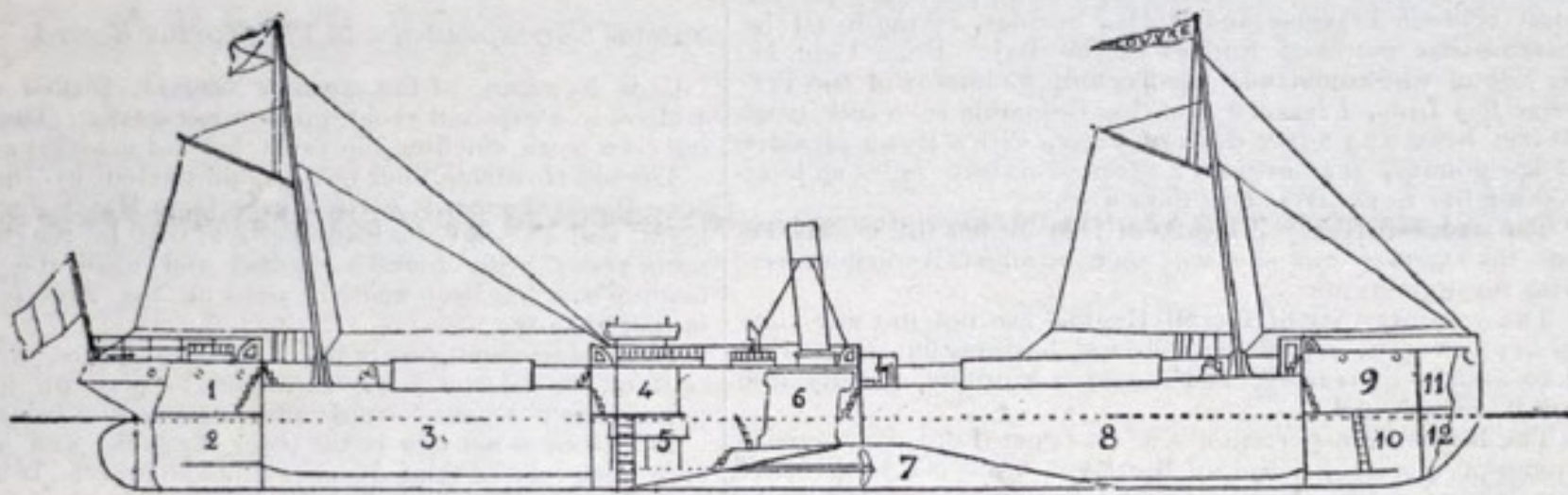


FIG. 3.—VERTICAL SECTION AMIDSHIPS.

A. A, central propellers.

The steamer Louvre, built by Mr. Oriolle of Nantes, when loaded, draws but 2.8 meters in the water, and is consequently capable of ascending the Seine with a full cargo although this is the mean depth of water in that river. This quality is not the only one that makes a truly original ship of the Louvre, but she is the first ocean vessel provided with two central propellers. As long ago as 1889, Mr. Oriolle built the Wilhel-



1. Stern cabins. 2. Provision room. 3. Aft merchandise hold. 4. Engineer's room. 5. Engine. 6. Boiler. 7. Propeller. 8. Forward merchandise hold. 9. Crew's quarters. 10. Wine hold. 11. Store room. 12. Galley.

FIG. 2.—LONGITUDINAL SECTION OF LE LOUVRE.

mine, a vessel actuated by an internal propeller. Since then he has delivered over a small river yacht with internal propeller and has converted a side wheel steamer, the Abeille No. 8, into a steamer with central propeller; but all these vessels were for river service only. The results that they gave were so satisfactory that the inventor conceived the idea of applying his new system to an ocean vessel designed for coasting trade, and so the Louvre was constructed. This vessel

in all Farragut's battles, and was appointed ensign in 1862, was commissioned lieutenant in 1864, lieutenant commander in 1866 and commander in 1877. He has twice before been lighthouse inspector.

The new commander left at once with Gen. Poe for the "Soo" to look over the proposed location of lights in St. Mary's river, and will report to the lighthouse board whether, in his opinion, the lights proposed will leave the passageway in a

bridges which cross the Seine between Paris and Rouen. As seen externally, she exhibits no notable peculiarity. The two engines are triple expansion. The respective diameters of their cylinders are 34, 62, and 90 centimeters, and each of them is capable of developing 350 horse power. The boilers, which are 2.6 meters in height by 1.8 meter in length, are multitubular generators composed essentially of two inclined steel plates connected by a number of parallel tubes.

The arrangement of the propellers constituting the true originality of this vessel, we shall describe at greater length. These two propellers are placed a little forward of the center of the vessel, that is to say, forward of the boilers and engines. Each revolves in a sort of tunnel having the form of an inverted U ($\cap$). These tunnels are 1.8 meter in height in the center, that is to say, at the place where the propeller is situated, and they are united by an inclined plane running lengthwise of the vessel. These propellers, which are 1.8 meter in diameter, and of 2 meters pitch, in revolving suck the water in front and force it aft.

As the tunnels are not closed at their lower part, the cavities that they form on each side of the center of the vessel increase the stability of it. The central propellers, therefore, have the advantage of putting a vessel in a state to remain at sea, which would behave very badly there, (seeing the feeble draught that she possesses), were the propeller placed, as is usually the case, at the stern. The Louvre made her first trip in February and took ten days to go from Nantes to Paris, in touching at Brest, Cherbourg and Havre. Her steadiness was perfect, at sea as well as upon the Seine, and the Parisian Steam Navigation Co., which had her constructed, has kept her in commission since the 15th of February for the regular service between Paris and Nantes, in touching at Brest.

LIGHT-HOUSE INSPECTOR APPOINTED.

A new inspector has been assigned to the eleventh lighthouse district, with headquarters in Detroit in the person of John J. Read, the recent commander of the Iroquois, which returned to this country, a short time ago from Samoa. Commander Read is about 50 years old and has been honorably connected with the United States Navy since 1861, having entered Annapolis academy three years previously. He was

SERVE'S PATENT RIBBED STEEL BOILER AND STAY TUBES.

It is claimed for the Serve's ribbed boiler tubes that in economizing fuel or increasing the steaming capacity of boilers from 10 to 40 per cent is saved, the range of 30 per cent varying with the character of the boiler and with the conditions under which it is used.

That these patent ribbed boiler tubes are becoming more widely appreciated is evidenced from the fact that they are fast coming into general marine use both in the ocean and coast trade.

These tubes are now in successful use and have been for a year past in the steamer Pennsylvania of the Red Star Line, running between the City of New York and Antwerp; in the steamer Mascotte of Plant's Line, running from Port Tampa to Havana; in the Aleppo of the Cunard Line, running to the Mediterranean from Liverpool, and recently between Liverpool and Boston; in the steamer Ratho of the Caledonian Steamship Co., running between Liverpool and Rangoon, British India, and on other steamers, some of which have forced draft and some natural draft. Ribbed tubes have been adopted in the French navy after exhaustive experiments on land and at sea, and are now in use on nine steamers of the French Line. (The Compagnie Generale de Navigation) running between Lyons and the Mediterranean in France, also in some of the steamers of the Compagnie Generale Transatlantique, and in every case they are giving entire satisfaction. An order has just been received by the manufacturers, for the steamer Polyneesian of the Allan Line running between Liverpool and Montreal.

The ribbed tubes are manufactured of steel, and necessarily of a superior quality of steel. They are also manufactured of brass and copper but never of iron. It would not be possible to produce them with the same character of material that is used in the manufacture of plain steel tubes.

THE DOMINION GOVERNMENT EUCURED.

The Kingston, Ont., correspondent of THE MARINE RECORD recently pointed out how easy it would be for foreign built, sailed, or owned tonnage to be admitted to the trade of the Great Lakes under the British flag. The following incident serves to again show the system under which this may be done.

The Richelieu & Ontario Navigation Co. recently had a new steamer built at the works of John Roach, of Chester, Penna. She is named the Columbian, is of iron and her construction and equipment are of modern and expensive style, after the equipment of the magnificent Sound boats. Before the ship could be put under the Canadian registry the owners would have to pay 25 per cent on the cost, which was \$200,000. To eucure the Dominion Government out of this duty the company took the Columbian to Newfoundland and had her registered there under the British flag without any tax and she is now on her way to Quebec to engage in passenger traffic on the St. Lawrence. Built in the United States, registered in Newfoundland and doing business in Canada. The stroke of tariff policy is just worth \$50,000 to the company.

THE INLAND LLOYD'S SUPPLEMENT.

Capt. McLeod, manager of Inland Lloyds has issued the Lloyds supplement for August. It gives only seven new boats, two of which are passenger yachts. The others are the City of Venice, a wooden steamer built by James Davidson, John B. Ketchum, a steel steamer built by the Craig Shipbuilding Co., and the Washburn and Pillsbury, whaleback steamers built by the American Steel Barge Co., and the Desmond, a wooden steamer built by the Jenks Shipbuilding Co. The valuation given the Washburn and Pillsbury is \$200,000, and the Venice \$135,000, and the total valuation for the seven new vessels is \$666,000. The schooners James D. Sawyer and S. B. Pomeroy return to the list, the former valued at \$15,000 and the latter at \$14,000. Both rate A2. The former is 36 years old, and was formerly valued at only \$6,000, while the Sawyer is 21 years old, and had a valuation of \$17,000 when she went ashore.

The sister boats Mariposa and Maritana, which were previously given valuations of \$225,000, and \$200,000 respectively, are now each valued at \$235,000 by way of correction. The former Canadian tug Charlton is now enrolled under American registry, valued at \$22,500, and rated A2. The valuation of the barge May Richardson has been raised from \$7,000 to \$12,000, and her rating from B1 to A2½, and the barge Garrett Smith, which Capt. Joe Duville recently purchased from J. C. Gilchrist is valued at \$3,000, and rated B1*. The valuation of the Smith schooner, H. P. Baldwin, is fixed at \$12,000, and her rating at A2½. The valuation of the schooner H. D. Root is raised from \$2,000 to \$3,000, and her rating from A2½ to A2, on account of repairs.

THE Bell, Lewis & Yates Coal Mining Co. has extended the rooms of the Rochester mine haulage plant until now there is 12,000 feet of haulage and 24,000 feet of tail rope running on one set of drums. This makes a distance of over two miles the mine cars travel in coming out, while the usual speed of about eight miles an hour is kept up the entire distance. A train of thirty-five cars holding nearly four tons of coal each is brought out each trip.

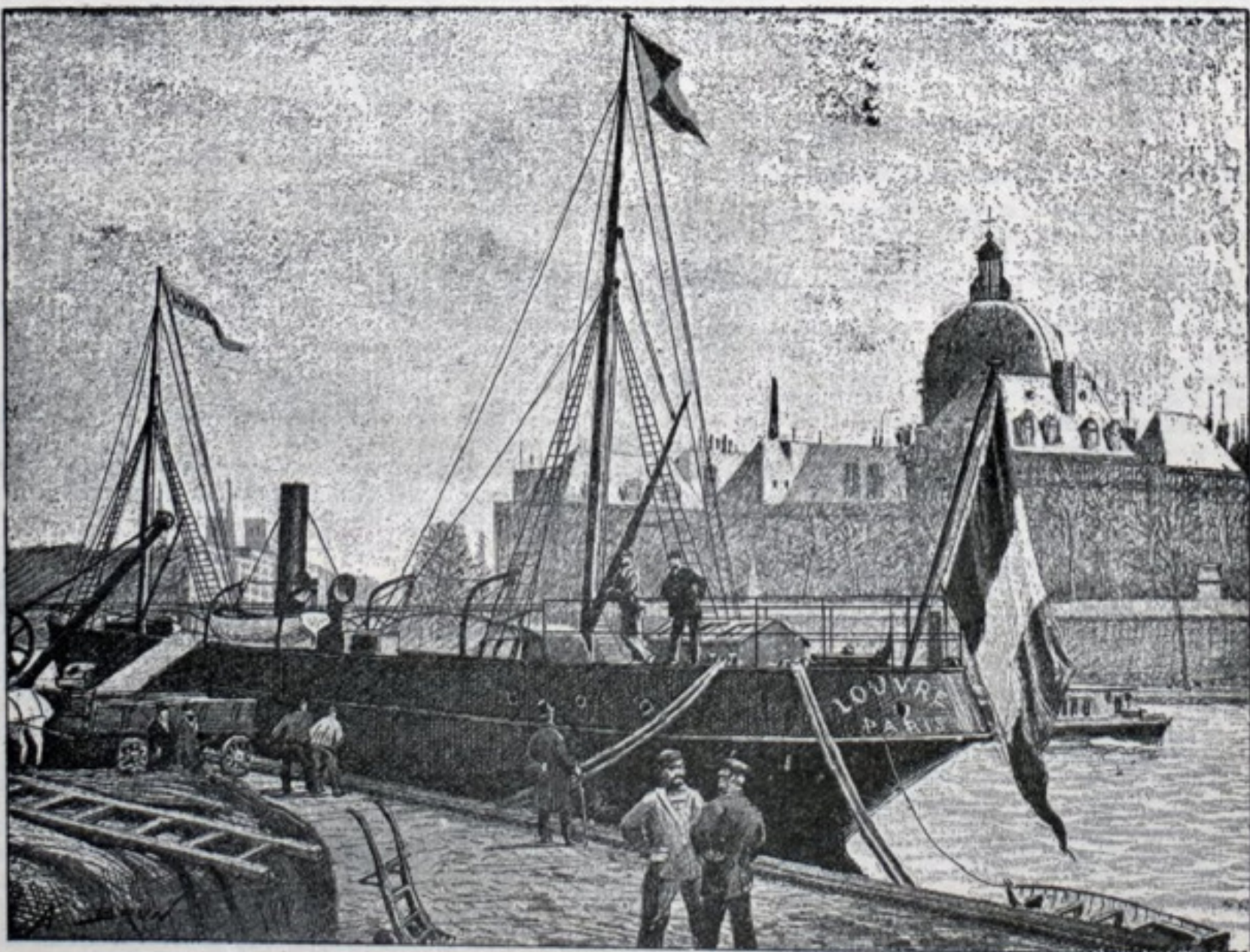


FIG. 1.—THE CENTRAL SCREW STEAMER LE LOUVRE.

is 53 meters in length, 8.5 in breadth, and 500 tons capacity. She is provided with two masts and one funnel, all three capable of being inclined in order to pass under the numerous

dangerous condition. Commander Read supersedes Commander Oscar F. Heyerman, recently relieved from duty in the eleventh district.

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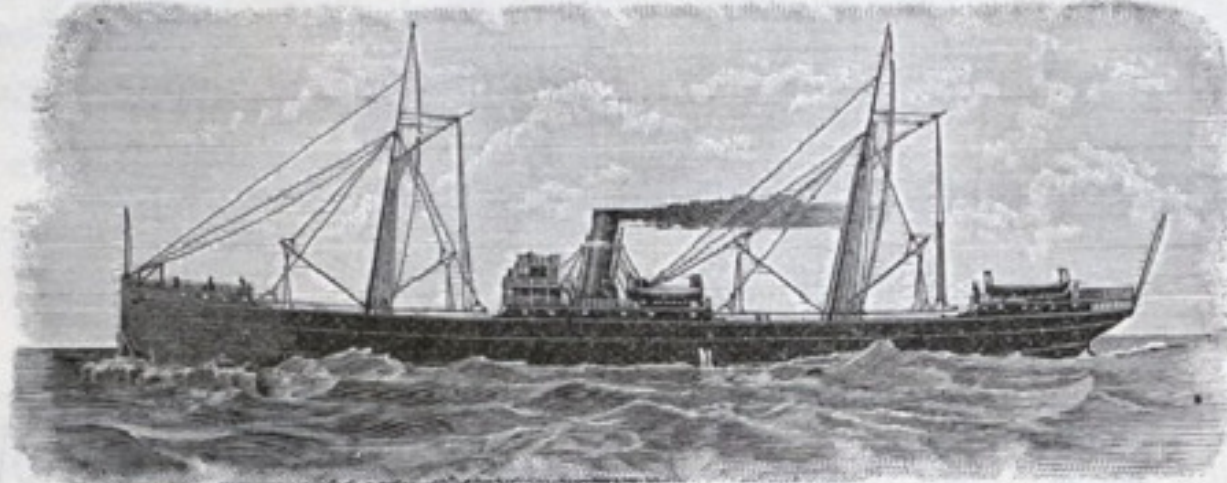
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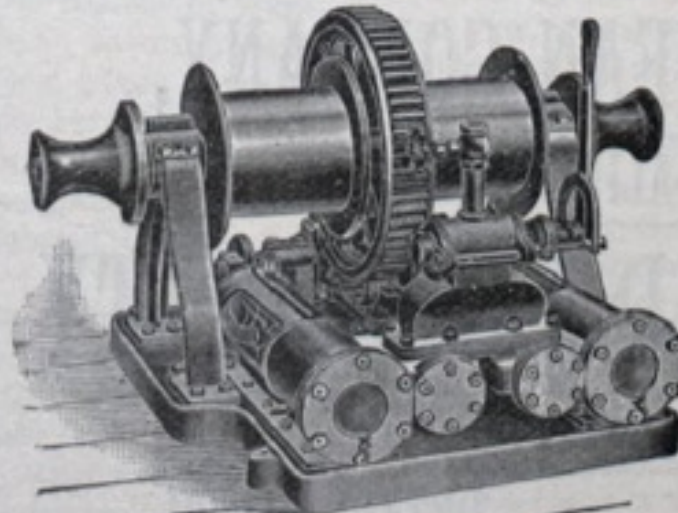
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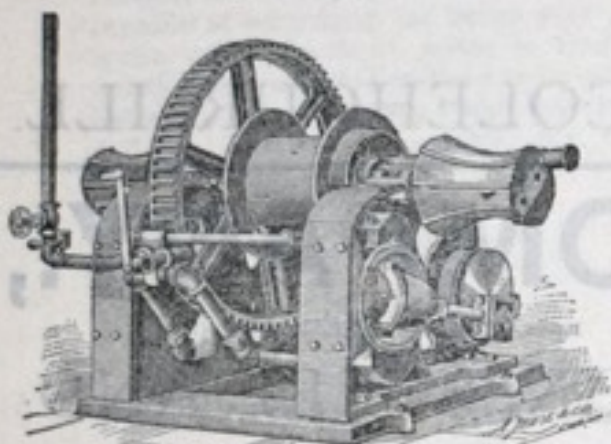
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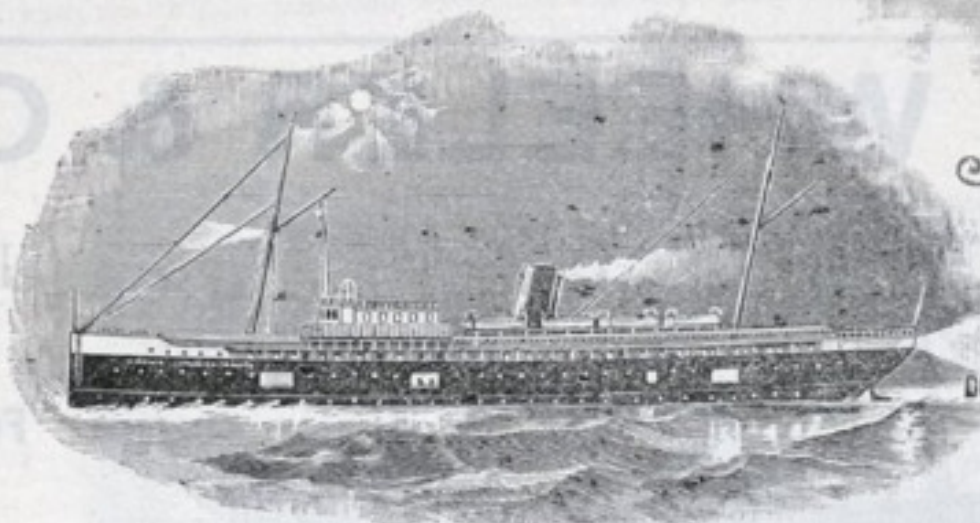


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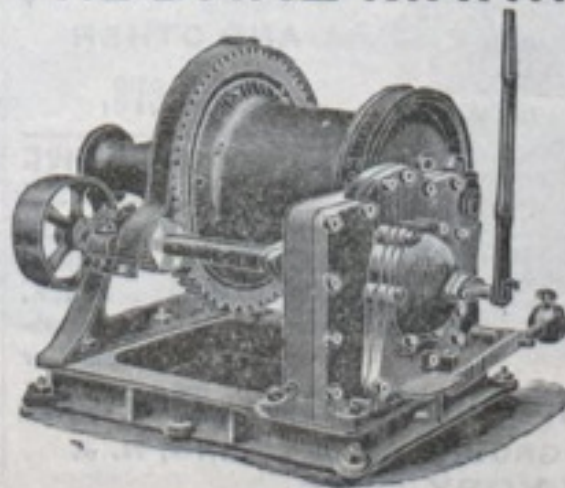
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